PharmGKB Update:
I. Genetic Variants of the Organic Cation Transporter 2 (OCT2, SLC22A2)

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Project: Pharmacogenetics of Membrane Transporters
HGNC Symbol: SLC22A2
HGNC Name: solute carrier family 22 (organic cation transporter), member 2
Synonyms: OCT2
Locus ID: 6582
GenBank Accession: X98333

Pharmacogenetic Significance: Genetic variation in SLC22A2 may result in variation in renal elimination and/or toxicities of its substrates.

Pharmacological Significance: SLC22A2 is predominantly expressed in the kidney and appears to play a role in renal elimination of hydrophilic organic cations of diverse chemical structure including many drugs such as metformin and cimetidine as well as the neurotoxin MPP+ (1-methyl-4-phenylpyridinium).

Potential Drug Interactions: cimetidine, ranitidine, metformin, phenformin, pindolol, procainamide

Functional Characteristics: SLC22A2 is a facilitated transporter found on the basolateral membrane of renal proximal tubules. The protein mediates the transport of small molecular weight hydrophilic organic cations from the extracellular fluids into the proximal tubule cell.

Summary of Data Submitted:
Size of sample set: 247 (494 chromosomes)
Number of gene regions assayed: 11
Total bases assayed: 3502
Coding bases: 1668
Noncoding bases: 1834
Number of variant sites: 27
PCR primers reported: 22

Publications:

Available online at http://pharmrev.aspetjournals.org/
DOI: 10.1124/pr.55.3.6.